Remarks

In the Office Action of November 10, 2004, the Examiner rejected claims 1-17 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,762,483. The Examiner also rejected claims 1, 3, 5, 7-11, 13, 14, and 17 under 35 U.S.C. § 102(e) based on U.S. Patent No. 6,472,258 to Adkisson et al. ("Adkisson"); rejected claims 2 and 16 under 35 U.S.C. § 103(a) in view of Adkisson and U.S. Patent Number 6,750,487 to Fried et al. ("Fried") or U.S. Patent No. 6,768,158 to Lee et al. ("Lee"); and rejected claims 4, 6, 12, and 18 under 35 U.S.C. § 103(a) in view of Adkisson. Finally, in the Office Action, the Examiner objected to claim 15 as being dependent on a rejected base claim but indicated that this claim otherwise defined allowable subject matter.

By this Amendment, Applicants have amended claims 1, 10, 11, and 14. Claim 1 has been amended to include certain features of claims 3-6 and claim 10 has been amended to include certain features of claims 13 and 15. Claims 3-6, 13, and 15 have been correspondingly canceled without prejudice or disclaimer and claims 17 and 18 have been canceled without prejudice or disclaimer. Claims 11 and 14 were amended for matters of form.

In view of the cancellation of claims 3-6, 13, 17, and 18, Applicants submit that the rejections of these claims are moot.

Regarding the rejection based on obviousness-type double patenting, Applicants submit herewith a terminal disclaimer (Form PTO/SB/26) to overcome this obviousness-

type double patenting rejection. Applicants respectfully request withdrawal of the obviousness-type double patenting rejection of claims 1-17.

Claim 1 and its dependent claims 3 and 5 were rejected in the Office Action under 35 U.S.C. § 102(e) based on Adkisson. Claim 1, as amended, now includes certain features that were previously present in claims 4 and 6, which were rejected by the Examiner under 35 U.S.C. § 103(a) based on Adkisson.

More particularly, claim 1, as amended, is directed to a MOSFET device comprising a source and a drain formed on an insulating layer, a fin structure formed on the insulating layer between the source and the drain, the fin structure including a first region formed in a channel area of the fin structure, and a dielectric layer formed around at least a channel portion of the fin structure to a thickness ranging from 0.6 nm to less than 1.0 nm. The MOSFET device of claim 1 further includes a protective layer formed over at least the first region of the fin structure, the protective layer being wider than the first region and including an oxide layer and a nitride layer formed over the oxide layer and having a thickness ranging from 50 nm to 75 nm. Still further, the MOSFET device includes a gate formed on the insulating layer around at least a portion of the fin structure.

Applicants submit that Adkisson does not disclose or suggest the features of claim 1, as amended. In particular, claim 1 recites, for example, "a dielectric layer formed around at least a channel portion of the fin structure to a thickness ranging from 0.6 nm to less than 1.0 nm." The Examiner points to column 3, lines 36-39, of Adkisson, as disclosing this aspect of the invention (Office Action, page 7). This section of Adkisson states that a "gate dielectric is then grown or deposited to an oxide equivalent thickness

of 1 – 5 nm, with a thickness of 1 – 2 nm being preferred Silicon dioxide, silicon nitride or higher-k could all be used." Applicants submit that neither the range of 1 – 5 nm nor the range of 1 – 2 nm given by Adkisson discloses or suggests the 0.6 nm to less then 1.0 nm range given for the thickness of the dielectric layer now recited in claim 1.

Claim 1, as amended, additionally recites, for example, "a protective layer formed over at least the first region of the fin structure, the protective layer being wider than the first region and including an oxide layer and a nitride layer formed over the oxide layer and having a thickness ranging from 50 nm to 75 nm." The Examiner points to column 3, lines 12-15 as allegedly suggesting this feature of the invention (Office Action, page 7). This section of Adkisson states "[t]he process of the present invention begins by forming a layer of pad nitride of about 100 nm thickness and a pad oxide of about 3 – 10 nm thickness over the silicon and patterning the nitride using a patterned resist 18." Applicants submit that the claimed nitride layer, which has a thickness ranging from 50 nm to 75 nm, is not disclosed or suggested by the 100 nm thick pad nitride layer of Adkisson. A device having a nitride layer with the claimed thickness range is not the same nor equivalent to the device disclosed by Adkisson.

In the previous rejections of claims 4 and 6 based on 35 U.S.C. § 103(a), the Examiner concedes that Adkisson does not disclose the claimed ranges for the thickness of the claimed dielectric layer or the thickness of the nitride layer, but contends that the claimed ranges would have been obvious in view of Adkisson "since the criticality of the various sizes has not been established, it would seem that one of ordinary skill in the art at the time the invention was made could freely and easily choose from the different various sizes." (Office Action, page 7). Applicants respectfully disagree with the given

motivation for modifying Adkisson. Adkisson does not disclose or suggest any reason for modifying the given thickness ranges of the gate dielectric or the pad nitride to the ranges recited in amended claim 1. Accordingly, there would be no reason for one of ordinary skill in the art to "freely and easily choose from the different various sizes" as the Examiner suggests. The only "various sizes" disclosed by Adkisson do not fall within the ranges currently recited in claim 1. Further, Applicants assert that the mere allegation that the claimed range is not critical and therefore can be achieved by routine experimentation does not satisfy the requirements of 35 U.S.C. § 103.

For at least these reasons, Adkisson does not disclose or suggest each of the features of amended claim 1 and withdrawl of the rejection is respectfully requested. Claims 7-9, which depend from claim 1, were additionally rejected based on Adkisson. Applicants submit that at least by virtue of the dependency of these claims from claim 1, the rejection of these claims should also be withdrawn.

Independent claim 10 and its dependent claims 11-14 were rejected under 35 U.S.C. § 102(e) based on Adkisson. As amended, claim 10 includes features similar to those recited in now-canceled claim 15. Because this claim was indicated as containing allowable subject matter, Applicants submit that the rejection of claim 10 should be withdrawn. The rejections of claims 11 and 14 should also be withdrawn, at least by virtue of their dependency on claim 10.

Claims 2 and 16 stand rejected under 35 U.S.C. § 103(a) in view of Adkisson and Fried or Lee. Claims 2 and 16 depend from claims 1 and 10, respectively. Applicants have reviewed Fried and Lee, and submit that these patents do not cure the deficiencies

with respect to claims 1 and 10, discussed above. Accordingly, the rejection of claims 2 and 16 should be withdrawn.

In view of the foregoing amendments and remarks, Applicants submits that the claimed invention is neither anticipated nor rendered obvious in view of the references cited against this application. Applicants therefore request the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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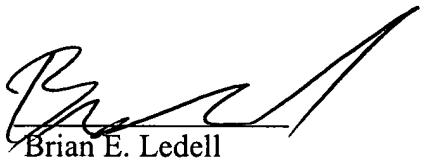
By: 
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